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ABSTRACT

This paper reviewed several sources of data on the University of California systemwide and the Berkeley campus concerning allocation of faculty contact hours and faculty teaching energies generally, by the level of student. By several different measures, faculty energy and effort devoted to undergraduate teaching appear to have declined substantially during the 1960-70 period. More recently, despite a declining proportion of graduate students over the last decade, faculty contact hours at the undergraduate level have declined even further. A systemwide effort beginning in academic year 1969-70 to redress the perceived imbalance had little apparent immediate impact and negligible long-term effects. A second type of analysis seemed to suggest that upward shifts in undergraduate interest/demand patterns at Berkeley, whether short-term or long-term, are accorded a fairly low priority in the allocation of temporary and permanent instructional resources. Temporary instructional resources are considered to be visiting professors, instructors, lecturers, and associates. It appeared that decisions to allocate temporary instructional resources were based heavily on programmatic rather than workload considerations. (Author/SW)

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UNDERGRADUATE EDUCATION AT THE UNIVERSITY: A LOW PRIORITY*

by Jeff Koon

ED165536

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RECOMMENDATIONS

#1. At all levels of the current general review of faculty workload, a close examination should be undertaken of the proportion of faculty time allocated in each department to lower, upper, and graduate division instruction. The faculty workload survey, beginning in Winter Quarter 1978, should request data on all teaching-related activities by level of student, and in ways consistent with improvements in methodology, seek to maximize comparability with data obtained in 1968 (and 1960).

#2. At least one graduate and at least one undergraduate student, appointed by the appropriate student government authorities on each campus, must sit as full participants on the Senate's budget/promotion committee(s). Students at both levels must also be represented in the departmental decision-making in the current workload review process, and on departmental committees (to be) charged with the evaluation of the teaching components of promotional cases.

#3. Strong Systemwide, regional, campus, and departmental cooperation or coordination is needed in subject areas with either low or high undergraduate (or net) student demand. Selective development must be pursued more effectively, even at some cost to campus autonomy.

#4. For purposes described in the text below, the University should convert approximately $1 million in ladder faculty FTE allocations to security-of-employment lecturers.

#5. For purposes described in the text below, Systemwide Administration, and faculty and student representatives should seek $1 million for Associate positions from the Legislature and Governor.

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*This paper presents documentation and analyses regarding a number of concerns expressed over the last few years by students, both at Berkeley and Systemwide. It is, as indicated, a draft for discussion and not an "official" position. Please address comments to the author, or to the Academic Affairs Vice President at: Academic Affairs Office; 208 Eshleman Hall; University of California; Berkeley, CA. 94720. Or call 415-642-0256.

PART I

THE DECLINE IN FACULTY ATTENTION TO UNDERGRADUATES
(U.C. Systemwide, U.C. Berkeley)

The adequacy of the amount of time and energy that faculty devote to teaching, especially at the undergraduate level, remains a subject of continuing controversy within the University of California and among various elected and appointed State officials. For example, questions have been raised about the adequacy of the rewards for good teaching in the faculty promotion process and the hours that faculty spend in classroom contact with students. At the latest meeting of statewide faculty representatives (Academic Assembly), University President Saxon said:

> I must warn you, however, that an improvement in the quality and nature of our data will not rectify all the problems associated with teaching workload. The question is not merely a fiscal or budgetary one, although that aspect is the legitimate and continuing focus of interest of the Department of Finance and of the Legislative Analyst. In addition, and much more troublesome, is the long held and frequently expressed views of some students (a small minority of the total student body, but large in absolute numbers nevertheless) and of some faculty, that as an institution we don't adequately reward teaching. Our inability to convince many of our students of the University's commitment to teaching is one reason we have been unable to persuade some members of the State government also. . . .
>
> . . . .
>
> It seems to me inevitable that as long as those in authority are willing to embrace anecdotal statements to the effect that we aren't paying enough attention to undergraduate education, our efforts to document teaching workload by statistical methods are unlikely to be persuasive. But, of course, we will continue to try. And, in addition, we are developing some new approaches.[a]

However, as we shall see subsequently, there is actually considerable evidence that the neglect of undergraduate education, however "benign" in intent, is considerably less anecdotal and more serious than the University President decided to describe to the assembled faculty representatives. Further, if the evidence presented below is largely correct, there is considerable reason for pessimism -- i.e., based on past performance, there is considerable doubt that any problem will be identified or, having been identified, that remedial action will be taken effectively.

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[a]Academic Senate, Record of the Assembly, June 2, 1977 (Berkeley or Los Angeles: University of California), pp. iv - v.

An earlier paper prepared on behalf of the Academic Affairs Office of the Associated Students of the University of California, Berkeley (ASUC), entitled "Teaching Evaluation: A Student Position," by Jeff Koon, dealt with one major aspect of this situation.[b] This paper will focus on the University and faculty commitment to undergraduate education, as assessed by workload measures. A possible third area of concern, faculty attitudes toward undergraduates, has been treated by other researchers and will not be of significant concern here.[c]

Because of the numerous questions that have been raised, University faculty and administrators have jointly begun to attempt to deal with the problems. For example, a Systemwide task force has been set up to study the current state of the art in teaching evaluation. And at the same meeting of the Academic Assembly at which President Saxon spoke (as quoted above), the faculty representatives adopted the following advisory recommendation concerning the establishment of a process to develop guidelines on faculty (contact hour) workload:

> Such process should include:
>
> a) development by each department or other appropriate administrative unit of guidelines on total faculty instructional effort, including average number of courses and/or units taught per person per year;
>
> b) submission of such guidelines, together with their educational justification, to Deans or other appropriate administrative officers for review and recommendation;
>
> c) submission of the proposed departmental guidelines and comments by the Dean to campus budget committees for review and recommendations on their suitability;
>
> d) transmission of such recommendations to administrative officers and the department for reconciliation of differences;
>
> e) implementation of final guidelines by each department; and
>
> f) an accountability mechanism linked to the department's annual budget submission to the Dean.[d]

Systemwide Administration has begun to develop a full set of guidelines for proceeding through this process of workload review. Among many other concerns in the initial draft guidelines (July 18, 1977), there is some sensitivity shown to the need to examine the time commitment given to undergraduate teaching.

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[b] Jeff Koon, "Teaching Evaluation: A Student Position." ASUC Academic Affairs Office, 208 Eshleman Hall, University of California, Berkeley, Berkeley, CA. 94720. 642-0256.

[c] For example, see Robert C. Wilson, Jerry G. Gaff, Evelyn R. Dienst, Lynn Wood and James L. Bavry, College Professors and Their Impact on Students (New York: John Wiley & Sons, 1975).

[d] Academic Senate, op. cit., pp. x - xi.

The Academic Assembly also recommended that an independent agency be contracted to conduct a study of the time faculty spend in their various work-related activities, and that a standing committee of the Academic Senate "be established to provide continuous consultation with, and monitoring of, the agency set up to collect and analyze faculty workload data."[e] Development of this new study is underway, and the intention is to have an initial report ready for the Legislative consideration of the University's 1978-79 budget (i.e., in early 1978).

An eleventh-hour approach was made to a member of the faculty oversight committee for this workload study, to urge an examination of overall faculty teaching effort by level of student (i.e., lower, upper and graduate division). but despite the need to collect data comparable with workload studies done in 1960 and 1968 (see below), it now seems likely that only the core of faculty workload (i.e., classroom and independent study contact hours) will be analyzed by level of student. One of our concerns with respect to this study, as conveyed to the faculty member on the oversight committee, was the need to generate information for consideration in the Universitywide, department-level workload review process. If current attention by faculty to undergraduates has declined when contrasted with earlier times, it is important for all University departments to know about it.

Overall Faculty Workload

In previous attempts to illustrate the actual nature of faculty workload, which are similar to the study currently underway, special studies were conducted by the University in 1960 and again in 1968.[f] The 1968 study, in which a large sample of faculty[g] rated their own time commitments, found that the average workweek of general campus faculty was 60.4 hours for the 30 instructional weeks of a three-quarter year.[h] When the 9 weeks of registration, final exams and interquarter periods are included, the average workweek was determined to be 58.3 hours (51.7 hours being the average for the registration-finals-interquarter weeks).

Of the 60.9 hours worked weekly by regular teaching faculty[i] (i.e., as contrasted with the 60.4 hours by "total" general campus faculty), the study found that actual contact hours associated with the teaching of

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[e] Ibid., p. xi.

[f] Data are drawn from an Office of the President report, "Faculty Effort and Output Study," prepared for the Regents' Committee on Educational Policy meeting of January 15, 1970. The report is considered "preliminary."

[g] The sample, which was stratified by discipline and campus, included approximately 15% of all general campus regular faculty (Professors, Associate Professors, Assistant Professors, Instructors) with full time appointments, 84% of whom were assigned to regular duties. The rest had joint teaching-research or teaching-administration appointments.

[h] Of the 60.4 hours total, 6.8 were devoted to Senate and administrative affairs (governance and educational policy).

[i] Excludes faculty with joint teaching-research or teaching-administrative appointments.

classes amounted to 9.0 hours per week, with about six of these hours being associated with the instructor's actual presence in the classroom. In addition, 8.4 hours were given by these faculty to independent study (60% of which was for supervision of graduate thesis work), and 13.9 hours went to course preparation (including review and evaluation of student work, supervision of teaching assistants, etc.). The total effort in teaching -- 31.3 hours -- represented 51.4% of the grand total (of 60.9 hours) of the work of regular teaching faculty.

Compared with the 1960 data, where a less detailed analysis was undertaken, activity associated with classroom teaching by "total faculty appointments" is reported to have declined from 24 to 21 hours per week (rounding in original), and as rising from 7 to 9 hours of independent study supervision (including departmental colloquia and postdoctoral instruction).

ITEM 1

A separate comparison by level of student of the results of the 1960 and 1968 studies, found in a paper titled "Comments for President Hitch to Academic Council Re: Faculty Effort and Output Study,"[j] however, yielded remarkable results. While the figures (data) employed in this separate analysis do not seem to balance with the figures presented in the "Faculty Effort and Output Study" (cited above), they are drawn from the same study and the explanation for the difficulty may be explained in the initial three paragraphs of the "Comments for President Hitch," which are given below as footnote "k."[k] (Discrepancies in the data, if any, may be traceable to various recombinations of the data, e.g., using time spent at postdoctoral supervision, departmental colloquia, and the like.)

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[j] "Comments for President Hitch to Academic Council Re: Faculty Effort and Output Study," January 12, 1970. (No author is given. Table A, a key source in the subsequent text here, bears a notation, "OAS, 1/12/69.")

[k] "The administration has provided the Regents' Committee on Educational Policy a preliminary report on the findings of the 1968-69 Faculty Effort and Output Study. Earlier drafts of the preliminary report were reviewed by a sub-committee of the Universitywide Senate Educational Policy Committee and their comments were incorporated into the present document. The report to the Regents has been distributed to you.

"I believe the preliminary report amply documents the fact that members of the University faculty devote a substantial amount of their waking hours to activities which are properly a part of their University responsibility; that the time University faculty members devote to research and scholarship is important to the attainment of both the instructional and new knowledge objectives of the University. The findings also indicate that there is a remarkable consistency in the data indicating approximately the same overall activity levels between the earlier 1960 study and the present 1968-69 study.

"The findings and analysis, however, have raised several new questions which have not been publicly disclosed in this preliminary report because I wished to have the opportunity of discussing these findings with you beforehand. The attached tabular material demonstrates the changing distribution of regular ranks instructional effort by level of student between 1960 and 1968."

Overall, according to the figures in the paper "Comments for President Hitch," faculty ("all faculty appointments") spent 31.42 hours per week in "course and tutorial activities" in 1960; in 1968, they spent 27.44 hours. This represents a net decrease of 12.7%. (While the Faculty Effort and Output Study shows a net increase in the faculty workweek from 1960 to 1968 -- from 58 to 60 hours -- there may be some sensitivity to the areas of reduction and pattern of change.)

Despite the modest 12.7% decline in course and tutorial activities by faculty, in terms of hours per student per week, the change worked out to a 41% decline at the lower division level! Furthermore, there was also a 41% drop in faculty course and tutorial activities at the upper division level between 1960 and 1968!! In contrast, faculty contact hours per student per week at the graduate level rose by 29%.[l] See Appendix A.

Various reasons are plausible as partial explanations for this phenomenon, including one associated with demographic trends within the graduate population (see footnote "l"). For example, in the shift from the semester to quarter calendar, the faculty's classroom contact hour norm may have fallen from about 180 hours per year to about 150 (a 17% decrease in core workload, perhaps associated with the 12.7% decrease in overall teaching-related workload reported above). However, the number of courses taught by faculty tended to rise (on some campuses at least), from around 4 to around 5 per year. If the subject matter taught in the additional courses generated by the change to the quarter system were consigned by departments primarily to the graduate level, the proportion of faculty time devoted to undergraduate teaching would decline.

If the number of phantom (unregistered but unfinished) graduates rose during this time period, there might also be a modest effect on the distribution of faculty teaching energies by level of student.

If money available for research increased substantially between 1960 and 1968, faculty might also move toward more involvement with graduate teaching.[m]

In addition, student protest movements of the middle-to-late 1960s may also have stimulated the more staid members of the faculty to reduce their time commitments at the undergraduate level.

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[l]Although this measure is in hours per student per week, a shift toward a larger proportion of graduate enrollments, Universitywide, would result in effects of this type. However, overall graduate enrollments were essentially stable, changing from 26% (1960) to 27% (1968). There was some increase, however, in the proportion of graduates who were at the doctoral rather than the master's level of study. The percentage of graduate students who were at the doctoral level rose from 35% in 1960 to 48% in 1968.

[m]The Faculty Effort and Output Study's comparison of 1960 and 1968 data shows a modest rise in time spent on research by faculty, from 17 to 19 hours per week.

One key question is raised in the paper, "Comments for President Hitch." Were there educational policy justifications or a conscious setting of priorities associated with the apparent decline in faculty commitment to undergraduate teaching?[n] This too is our question, since the data reported above seem to reflect a rejection of undergraduate teaching by many faculty rather than purely benign neglect.

It is of course easy to assert that the University's stature is built on its research/publications and graduate education, and that the quality of graduate education must be maintained at virtually all costs. But what then, within any given total resource base, is the optimal level, in the aggregate, of per capita resources to be devoted to graduate-level instruction? Given that undergraduates should be served at least moderately effectively as well, is the optimal distribution that at which the University managed to function in 1960? In 1968? As it is currently? Or is it still inadequate for graduate students?

ITEM 2

Data drawn from the 1972 Legislative Analyst's report, which is prepared for the annual budget hearings for all State-funded agencies, is presented below.[o] As can be seen, the same pattern of decline in attention to undergraduates that was found in comparing the 1960 and 1968 faculty workload study data seems to be manifest in two other related measures: average class size and the proportion of faculty contact hours assigned to the graduate level, considered in relation to the total graduate population.

With the era of protest beginning at the earliest in 1964 (at Berkeley) and the quarter calendar commencing in 1966-67, the figures make it clear that the decline in contact with undergraduates cannot be accounted for entirely by these (possible) factors.

Students per class contact hour (average class size) for regular faculty by course level (1962-1970)[p]

	Lower division	Upper division	Graduate	All students
1962	43	24	9	24
1964	49	27	9	25
1966	49	27	8	24
1968	47	25	7	21
1970	50	27	6	21

[n] In the years following 1968-69, the University Administration seemed to be making an attempt to strengthen undergraduate education. For example, new guidelines for the evaluation of teaching were developed in 1969 and guidelines for Regents and State money targeted toward innovation in the early 1970s included an emphasis on the creation of lower division seminars. The effect of such efforts remains unassessed. See also Appendix B.

[o] California Legislature, Analysis of the Budget Bill of the State of California for the Fiscal Year July 1, 1972, to June 30, 1973 (Sacramento, CA: California Legislature, February 1, 1972). [A. Alan Post et al., Report of the Legislative Analyst to the Joint Legislative Budget Committee.]

[p] Ibid., p. 982. Quoted exactly.

Comparison of Percent of Total Faculty Contact Hours for Graduate Instruction to Percent of Graduates in Total Enrollments 1962-1972[q]

	Percent of contact hours for graduates	Percent of graduates
1962	32.1	31.6
1964	37.3	32.0
1966	41.6	32.0
1968	46.0	31.3
1970	46.1	29.9
1972 (estimated)	--	28.5

ITEM 3

Having noted the large and unexplained drop in faculty contact hours and in overall teaching-related activity ("course and tutorial activity") at the lower and upper division levels from 1960 to 1970, we wondered whether there was any change subsequently, such that the apparent decline in emphasis on undergraduate instruction might have been reversed. Discussion with a staff member of Systemwide Administration's information management section led to the conclusion that no faculty-student accounting system then in use could provide the information desired (i.e., from 1968 to 1976). From Fall 1970 onwards, however, the Data System for Instructional Resources (DSIR) was used to generate faculty contact hour data for presentation to the Legislature.

As indicated above, DSIR data is not strictly comparable to data obtained in the previous studies of faculty workload nor to data earlier presented to the Legislature, but systemwide DSIR data on the core element of teaching, faculty contact hours, is available from Fall 1970 through Fall 1975. Unfortunately, the data for Falls 1970 and 1971 is not strictly comparable to the data thereafter.[r] The data is presented on the following page.

In recent years, i.e., 1972 to 1975, the DSIR data appear to indicate a slight further decline in faculty contact hours, in part at the lower division level. This apparent decline, and the Legislative Analyst's resultant recommendation not to fund the additional 22 FTE faculty positions requested by the University for 1977-78 caused considerable consternation. As a result, a special committee, chaired by a much-respected teacher, Prof. Hildebrand of U.C. Davis, was constituted to review the situation. In studying the 1972-75 DSIR data, the special committee found errors, and campus by campus variation in the methods in which contact hours were

[q]Ibid., p. 983. Quoted exactly.

[r]The "Report of the Special Ad Hoc Subcommittee on Faculty Workload" (Academic Senate, University of California, March 10, 1977) notes that: "Data on faculty workload in the years 1970 and 1971 are included without qualification on current DSIR tables showing changes in workload over the years, even though those data were collected by a method different from that used subsequently." [p. 4.] See text following.

Average Weekly Contact Hours per FTE Faculty
Regular Ranks and Total Faculty[s]

	Fall 1970	Fall 1971	Fall 1972	Fall 1973	Fall 1974	Fall 1975
REGULAR RANKS[a]						
GA, PA, SP[b]						
Lower Division	1.4	1.7	1.6	1.7	1.5	1.4
Upper Division	2.7	3.0	2.9	2.8	2.8	2.9
Graduate	1.9	1.9	2.0	2.0	2.0	2.0
Subtotal	6.0	6.6	6.5	6.5	6.3	6.3
Independent Study	3.9	5.4	5.4	5.3	4.9	4.8
Total--Regular Ranks	9.9	12.0	11.9	11.8	11.2	11.1
REGULAR & IRREGULAR RANKS[c]						
GA, PA, SP[b]	6.8	7.3	7.2	7.3	7.1	7.2
Independent Study	3.4	4.5	4.8	4.5	4.1	3.9
Total--Regular & Irregular	10.2	11.8	12.0	11.8	11.2	11.1

[a]Regular Ranks includes Professors, Assoc. Professors, Asst. Professors, and Instructors. Irregular Ranks includes Lecturers, Supervisors, Associates, and Assistants.

[b]General Assembly (GA). The entire course enrollment attends each class meeting (the typical case). Partial Assembly (PA). Some fraction of the entire enrollment attends the class meeting(s). For example, the discussion sections associated with a large History lecture section are partial assemblies, whereas the lecture itself is general assembly. Special Program (SP). Enrollees participate as individuals (rather than as members of a group) in each of the class meetings. However, not all of the classes comprising the course require participation on an individual basis. Special program classes are special cases of PA classes.

[c]This accounts for all teaching faculty except TA's and TI's. Data on Irregular Ranks faculty are not available by level of instruction.

reported, plus a high statistical probability that the apparent decline in faculty contact hours could have occurred through chance fluctuation in the measurements. They concluded that the 1972-75 decline in faculty contact hours, as reflected in the DSIR data, was more apparent than real, and also recommended that some system other than DSIR be used to measure faculty workload (partly because DSIR presents a very incomplete picture of overall faculty workload associated with teaching).[t]

[s]California Legislature, Analysis of the Budget Bill of the State of California for the Fiscal Year July 1, 1977, to June 30, 1978 (Sacramento, CA: California Legislature, February 14, 1977). [A. Alan Post et al., Report of the Legislative Analyst to the Joint Legislative Budget Committee.] Page 798, quoted exactly.

[t]"Report of the Special Ad Hoc Subcommittee on Faculty Workload," op. cit.

Nov. 11, 1977

ERRATUM

"Undergraduate Education at the University: A Low Priority"
by Jeff Koon

On page 9:

The first ratio (for Fall 1964) was developed on the basis of the grand total for 28 departments. The second (for Fall 1972) was derived by the Office of Institutional Research by averaging the ratios for each of the 28 departments. (I erroneously assumed the calculations were done in the same fashion -- as one might expect -- and discovered their error by adding up the 28 departmental figures.)

In order to obtain parallel measures, I had to recalculate the Fall 1964 data (i.e., using the average of the 28 departmental figures). The two sets of summary ratios then become:

Fall 1964

graduate division	:	upper division	:	lower division
3.98	:	1.00	:	0.45

Fall 1972

graduate division	:	upper division	:	lower division
5.11	:	1.00	:	0.35

Unfortunately, I do not have the data to convert the Fall 1972 data to a grand total (the better measure of the two), but the case still stands.

When the ratios are compared department by department, graduates improved their standing as against upper division in 17 of 26 cases (two being virtually identical) and against lower division in 18 of 25 cases (three being virtually identical).

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For purposes of this analysis, however, it is equally significant that there was no proportionate shift of faculty contact hours back toward undergraduates (or any rise generally). Further, in 1975-76, the University's graduate population, excluding the health sciences (which, along with non-academic departments such as Physical Education were excluded in the 1968 study of faculty), amounted to 22% of the total student population, as contrasted with 27% in 1968.[u] Thus rather than a stable or declining level of faculty contact hours with undergraduates from 1972 to 1975, we might have expected some movement toward increased contact at the lower and upper division levels, as resources were freed with the slow decline in the graduate population.

ITEM 4: BERKELEY

While the evidence thus far presented seems fairly clear, the period 1968-1972 remains least clarified. However, some data from Berkeley for the period Fall 1964 to Fall 1972 shows no sign of a re-emphasis on undergraduate education.

One measure of the decline in faculty attention to undergraduates at Berkeley can be found in the comparison of a table in the 1966 Report of the Select Committee ("Muscatine Report") with the results of a restudy done for 1972.[v] In the report of the Select Committee, a ratio was developed of faculty classroom contact hours per student credit hour, by level of student, for faculty in the 28 departments carrying 1000 or more student credit hours in Fall 1964. With the upper division ratio set to 1.00, the three ratios of student credit hours to faculty classroom contact hours were:

graduate division	upper division	lower division
3.34	1.00	0.52

In the restudy done on Fall 1972 data, involving the same departments (but in a different calendar system), the same ratios for the same 28 departments were found to be:

graduate division	upper division	lower division
5.11	1.00	0.35

Thus in terms of student credit hours per faculty contact hour, the Systemwide phenomenon of a decline in faculty teaching efforts/energies at the lower and upper division levels appears to have been reflected in data from Berkeley too. Further, the proportion of advanced graduate enrollments at UCB declined slightly during these years. (Overall, Berkeley's graduate population also declined during this period, from 35% in 1964 to 32% in 1972.)[w]

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[u] Universitywide statistics are drawn from: University of California, Statistical Summary of Students and Staff of the University of California, 1975-76 (Berkeley: University of California Systemwide Administration, 1976?).

[v] Academic Senate (Berkeley Division), Education at Berkeley: Report of the Select Committee on Education (Berkeley: University of California, 1966), p. 51. The restudy was done by the Office of Institutional Research (unpub.).

[w] University of California, Berkeley, Departmental Statistics, 1964-65 - 1973-74, Budget and Planning, September 12, 1974.

PART II

DEPLOYMENT OF TEMPORARY FACULTY RESOURCES AT BERKELEY

Given our focus on the attention paid to undergraduate educational needs, one other analysis of Berkeley data should be called to the attention of campus and Senate authorities. The matter of concern is the campus' deployment of its temporary instructional (faculty) resources -- visiting professors, instructors, lecturers, associates.

Temporary instructional resources are particularly important in enabling the campus to meet short-term shifts in undergraduate interest/demand patterns for majors and coursework. Temporary instructional resources are also important in providing wider ("programmatic") coverage of a field, which usually enriches departmental offerings at the graduate (and to some extent, upper division) level(s). The enrichment function is accomplished by bringing in various kinds of expertise not provided by the capabilities of the permanent departmental faculty (or by freeing regular faculty to do more teaching at higher levels). In addition, when regular faculty are on leave, involved in administrative or key Senate assignments, or when the University is paid to release faculty to work on their research, temporary instructors are needed at times to teach such core courses (at any level) as cannot be taught by other faculty.

Background

Last year, the campus decided to curtail the enrollment bulge (i.e., enrollment above the target of 18,800 undergraduates and 8100 graduates), which was especially sizable in the years 1973-74 to 1975-76.[x] Although the 18-year-old (college-going) age cohort is expected to decline substantially in the early 1980s, Berkeley most likely will continue to have a surplus of undergraduate applications, albeit a smaller one. The decline in the potential graduate population is expected to begin in the mid-1980s. In the absence of additional resources provided by Systemwide Administration, the campus at some time would presumably have had to reduce enrollments.

Berkeley has chosen to reduce the number of students primarily by limiting enrollments in the Social Sciences.[y] This decision was made despite the short- and long-term high enrollment patterns at Berkeley (and on other campuses) in several social science disciplines. In addition, since Blacks and Chicanos are found in higher proportions in the social sciences than in most other undergraduate disciplines, this decision involved a possible impairment to student-focused affirmative action efforts. More-

[x] Office of Institutional Research, Campus Statistics, Fall Quarter 1970 and Year 1969-70 through Fall Quarter 1976 and Year 1975-76 (Berkeley: University of California, 1970-1976). Target figures are from APPRB and exclude the health sciences (157 undergraduates and 467 graduates in 1975-76).

[y] This decision is of interest in view of the University's recent request for monetary augmentations due to increased student enrollments in cost-intensive fields (see California Legislature, Analysis of the Budget Bill, op. cit., 1977, p. 799). On the other hand, the State has not been very interested in funding overenrollments at U.C., Systemwide would not provide resources for Berkeley's overenrollments, and UCB didn't want to further stretch its resources.

over, since most of the reductions were focused on the junior transfer population, the possible impairment to affirmative action at the student level was further exacerbated.[z] Berkeley's Administration received numerous student complaints about these decisions.

The campus has also imposed ceilings on the number of undergraduates permitted to enroll in certain majors (at times limiting access even by students already enrolled here). Moreover, the campus has tried as well to reduce enrollments in certain fields by adding new prerequisite courses not formerly deemed necessary to the study of various subject matters, and by restricting some would-be changes of major by students (e.g., to a crowded subject matter in the College of Letters and Science, prior to the completion of three quarters of schooling by a junior-level transfer student).[aa]

While the University has not always clearly enunciated the reasons for its choice to limit or otherwise restrict undergraduate enrollments in certain fields as against others, one obvious factor is the desire to maintain existing graduate programs at current strength (and/or to distribute students according to existing faculty allocation patterns).[bb] It can be argued that the reductions in enrollments in crowded departments are made to improve the quality of education there. But this argument is based ultimately in the unwillingness to provide temporary or permanent instructional resources to fields with high student demand.

Unfortunately, reducing the undergraduate population to 18,800 (e.g., from its high of 20,777 in Fall 1973) can most easily be done by reducing the number of students in large or crowded departments (e.g., Economics, Psychology, Criminology, Business Administration, Sociology, etc.). The fairest alternative for students -- simply reducing the number of students irrespective of their prospective or intended major field -- would result in even lower student/faculty ratios in low-enrollment departments. (However, low-enrollment departments could be vigorously encouraged to innovate, develop more general interest courses, and attract more majors, particularly if their failure to do so ultimately resulted in few replace-

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[z] Although the campus continues to make a strong effort to accept those qualified minority students who do apply or are recruited to come to Berkeley, publicity directed to potential transfer students, in all fairness, warns them about the overenrolled (or underfacultied) programs and may serve as a deterrent for minorities as well as others who might otherwise wish to apply to Berkeley. Further, although college counselors are notified of new prerequisites for transfer students (see below in the text), unusual or "artificial" prerequisites may preclude late decisions by students to apply to Berkeley. Finally, the Supreme Court's decision on the Bakke case may further impair affirmative action efforts, depending on its nature, others' interpretation of it, and implementation.

[aa] For details on the restriction of change-of-major for transfer students, see University of California, "Announcement of the College of Letters and Science," Vol. 71, No. 10, August 1977, p. 27.

[bb] This view is somewhat explicitly presented in University of California, Revised Academic Plan, 1969-1975 (Berkeley: University of California, 1969). See especially pages 73-76.

ments for retiring faculty and/or less support with temporary instructional resources.)[cc] Low-enrollment departments tie up resources which are needed by other departments as well as for current and future successful innovations in teaching style and content, whether graduate or undergraduate.

The Social Sciences have long been a target of discrimination exercised against student interest patterns. For example, the Revised Academic Plan (1969)[dd] called for enrollment targets for 1975-76 that represented a 30% reduction in undergraduate enrollments from 1968 levels in the Social Sciences. This 30% cut in Social Science enrollments was recommended in the Plan despite the acknowledgment that: "The departments in this group [the Social Sciences] are in the forefront of the attack on modern social problems." [p. 69]

Possibly in the campus' zeal to escape the sometimes-tumultuous 1960s, the 1969 Plan ignored or overrode the student demand factor. Administrative and faculty leaders here still seem to overlook the fact that Berkeley's social and intellectual turmoil has made a vitally important contribution to national and world history. There is a distinct administrative and faculty preference for total peace and quiet at UCB. In budgetary planning, the result has been to grant too little positive recognition to the crucial roles of faculty and students, including many in the Social Sciences, in the social and intellectual ferment that helps to make Berkeley a truly great university. A great university is not a placid or stagnant backwater, nor a mere institute driven by the availability of money for research.[ee]

ASUC officers and many other students, including some immediately affected by exclusion from various majors, have felt that a bias for or against undergraduates interested in particular programs is inappropriate, except where the absence of laboratory facilities and the like are prohibiting factors.[ff] They have felt that some of the campus' methods of curtailment of student enrollments have been unfair to society's future -- as expressed by the desires and needs of undergraduates to learn particular subject

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[cc] Unfortunately, the College of Letters and Science, which enrolls 72% of the undergraduate majors at Berkeley (OIR, Fall 1976), is moving to increase breadth requirements. This will artificially sustain student enrollments in some departments by coercing students to take courses in areas of low personal and intellectual interest and excitement to them.

[dd] University of California, Revised Academic Plan, op. cit. [footnote "bb"]

[ee] For more information on the role of money and research in the University's history, the reader may begin with Clark Kerr's, The Uses of the University With a "Postscript--1972" (New York: Harper & Row--Harper Torchbooks, 1972). Original published in 1963. The 1972 edition contains an update of Kerr's perspectives on the multiversity's impact on undergraduate education.

[ff] Opportunities for graduate-level education, because of the much greater cost per student and the intensive specialization usually associated with career-related futures, cannot be determined as readily by student demand patterns.

matters. In addition, some have felt that the University is not living up to the spirit of its commitment in the State's Master Plan for Higher Education to make a place for all qualified students (see below).

Berkeley's students are above average by U.C. admission standards. Because the pool of qualified applicants is much larger than the number admitted, additional selectivity can be exercised in the admissions process. However, as we have noted, students are not admitted purely on the basis of their qualifications (e.g., as determined by GPA, other relevant achievements, aptitudes and experiences, and affirmative action considerations). When quotas are set by field of student interest, areas of weaker student demand will be admitting students who are less qualified than some of those excluded where demand is high. (Applications of qualified students who are excluded from UCB are automatically redirected to other UC campuses.)

Students redirected from Berkeley to their second-choice campus are not as likely ultimately to enroll in the University as are students who are granted their first choice of campus. The rate of second-choice acceptances by potential junior transfer students is particularly low (around 30% compared to 70% for campus of first choice).

ITEM 5

Because of the array of foregoing related concerns about access by undergraduates to the University field of their choice, our analysis turned to the use of temporary instructional resources on the Berkeley campus. Our questions included: Are Berkeley's temporary instructional resources being used to help meet short- and long-term upward shifts in undergraduate demand patterns? Or do priorities seem to lie elsewhere?

In one limited view of the use of temporary instructional resources developed below, we used two principal measures of departmental workload: 1) full-time equivalent (FTE) student credit hours per budgeted total faculty (i.e., excluding teaching assistants);[gg] and 2) headcount majors, including graduates, per budgeted total faculty. We then identified all departments in the College of Letters and Science that appear to have a significantly low workload. In the "Workload" table below, the workload data for these 13 departments are given, together with the departmental norms for their general disciplinary area.[hh]

Data are also presented in the "workload" table for the Social Sciences at Berkeley, which include several of the most crowded departments on campus.

[gg] FTE student credit hours are calculated by assuming that each 15 units of undergraduate coursework constitutes one full-time-equivalent student and, at the graduate level, by reference to the "percentage time" enrolled (25-50-75-100%), as indicated by the student's graduate adviser.

[hh] Afro-American Studies and Physical Education were omitted from the initial list of 15 departments, the former because of its recent origin and newly regularized status and the latter because of its unique nature, different faculty titles and the low unit value of courses.

WORKLOAD: 13 LOW-ENROLLMENT DEPARTMENTS COMPARED WITH THE SOCIAL SCIENCES,[a] FALLS 1975 & 1976

Academic Units[a]	Dept Stat: F 1975[a] FTE enr Tot fac	Dept Stat: F 1975[a] Hdct maj Tot fac	Subj Area: F 1975[a]	FTE enr Tot fac	Hdct maj Tot fac	Fall 1975[a] Headcnt Majors Grad	Fall 1975[a] Headcnt Majors Undrgr	Fall 1975[a] Stdt Credit Hours	Fall 1976 Headcnt Majors[b] Grad	Fall 1976 Headcnt Majors[b] Undrgr	Fall 1976 Stdt Credit Hours[c]
Botany	7.6	6.3	Bio. Sci.	13.6	13.7	47	47	114	50	45	129
Molecular Biol	5.5	3.6		13.6	13.7	52	0	79	60	0	91
Paleontology	8.5	6.8		13.6	13.7	32	9	51	30	5	47
Classics	15.8	4.1	Humanities	15.8	8.6	30	37	259	56	34	235
German	15.0	5.1		15.8	8.6	54	35	261	57	35	242
Music	12.3	5.9		15.8	8.6	29	104	275	29	82	256
Near East Studies	8.1	3.9		15.8	8.6	31	43	155	39	43	168
Oriental Langs	10.1	5.6		15.8	8.6	30	68	175	32	57	147
Scandanavian	10.1	3.7		15.8	8.6	11	12	62	7	9	52
Slavic Lang & Lit	8.7	4.4		15.8	8.6	27	34	119	21	25	101
S & SE Asian Studies	6.5	3.4		15.8	8.6	25	7	61	23	9	49
Astronomy	11.2	4.0	Phys. Sci.	17.7	8.1	26	20	126	28	22	146
Geol & Geophysics	8.5	9.3		17.7	8.1	71	80	138	64	80	127
SUBTOTAL: Elite 13 (% of campus total)						465 (5.1)	496 (3.8)	1875 (6.6)	496 (5.4)	446 (3.7)	1789 (6.5)
8 Social Science Departments (% of campus total)				25.0	17.2	1019 (11.1)	3248 (25.0)	6198 (21.7)	990 (10.9)	2763 (23.0)	5484 (20.0)
Campus Totals (excl. Extended Univ.)[a]						9205	12993	28607	9109	12021	27419

[a]See text for discussion concerning the selection of units for inclusion in the table.

Fall 1975 data are drawn from Budget and Planning, Berkeley: Selected Enrollment and Faculty Data, 1966-67 - 1975-76. Because Office of Institutional Research data suggests that the B & P data for headcount majors are actually from Fall 1975 rather than "1975-76" as labelled in the B & P volume, the table above has assumed that all data in the B & P document was drawn or extrapolated from Fall 1975. [See OIR, Campus Statistics, Fall Quarter 1975 and Year 1974-75.]

The Social Science data above exclude group majors, DICS programs, ROTC, etc., as well as Afro-American Studies and Demography, except as students in these majors enroll in the course offerings in the 8 mainline Social Science departments (which affects the FTE enrollment columns and ratios). The 8 Social Science departments (and their Fall 1975 workload ratios, a la columns 1 and 2 above) include: Anthropology (20.2, 11.0), Economics (33.1, 25.5), Geography (30.8, 12.1), History (22.6, 11.1), Linguistics (13.4, 13.1), Political Science (20.8, 18.2), Psychology (28.4, 26.5), and Sociology (31.9, 18.5).

The faculty/student ratios in columns 1 through 4 above are based on budgeted total faculty (permanent plus non-recurrent).

[b]Source: Office of Institutional Research, "Department Headcounts," January 10, 1977.

[c]Source: Office of Institutional Research, "Allocated FTE Students--Fall 1976," December 1976. [Our emphasis.]

(The effects of the new enrollment curtailments can be seen by comparing the Social Sciences data for Fall 1975 and 1976 in the table.) Footnote "a" of the table gives the workload measures for the eight departments included in the Social Sciences figures.

Many Social Science departments can and do operate, with some degree of success, at higher than the campus norms for both of the measures used in the workload table. However, the comparison of the number of temporary instructional resources allocated to departments in the Social Sciences as contrasted with the 13 identified low-workload departments might suggest the de facto level of commitment to undergraduate demand/interest patterns as compared with the commitment to (primarily) graduate-level programmatic coverage. The results of this analysis are presented in the "Allocation" table (next page).

Discussion of Tables

Two points are evident in the tables: First, the 13 programs are low in workload by the standards of their own subject matter area as well as by campuswide norms. In all, the proportion of regular faculty and visiting professors allocated to these 13 departments is roughly twice what one would expect based solely on their student workload. For 1976-77 then, the 13 low workload departments listed in the tables, with 4.5% of Letters and Science's headcount majors and 6.5% of the campus' FTE enrollments, have 11.0% of the (actual) regular and visiting professors.

Secondly, the proportion of the campus' temporary instructional resources allocated to these 13 "elite" departments is actually higher than the proportion of permanent faculty allocated! Combining the ranks of Instructor, Lecturer and Associate, the 13 low-workload departments were allocated 65.97 FTE or 20.2% of the campus' available temporary instructional FTE. The Social Sciences, on the other hand, were granted 37.48 FTE or 11.4% of the campus' available temporary instructional FTE. The 11.4% figure represents an even lower proportion than would be suggested by the proportion of students or regular faculty allocated to these eight Social Science departments.[ii]

As can also be seen in the tables, many of the low-workload departments, especially those with large allocations of temporary instructional FTE, turned out to be Humanities programs, usually in the languages and literatures. Adequate programmatic coverage is obviously important to make available in such fields, but similar needs for more complete coverage of a field could probably be identified in most departments, especially in view of the greater diversity of student interests in programs with a larger (and proportionately heavier) student population.

In Botany, a significant number of faculty in the department participate in the Department of Instruction in Biology, and the data system used by

[ii] Since teaching assistants rarely are allowed to teach classes other than the laboratory or discussion sections given in conjunction with a lecture, the disadvantages in staffing of the more crowded Social Sciences are offset only slightly by the more appropriate level of allocation of T.A.s. (In language departments, however, T.A.s often do lead lower division classes, typically under the supervision of a regular faculty member.)

ALLOCATION OF TEMPORARY INSTRUCTIONAL RESOURCES IN 13 LOW-ENROLLMENT DEPARTMENTS COMPARED WITH THE SOCIAL SCIENCES

Academic Units[a]	Fall 1976 Budgeted FTE Perm Faculty[b]	Actual Instructional Resources, Year 1976-77[c]							Fall 1976: Pct[d] of Campus Total	
		Regular Faculty[e]	Temporary Instructional Resources							
			VisPrf[e]	Instrs	Lectrs	Assocs	TA--TF	Readrs + Othr	Headct Majors	Student Crdt Hrs
Botany	13.50	11.18	.00	.00	.67	3.67	9.18	.01	.45	.47
Molecular Biol	13.34	8.33	.00	.00	.00	.00	.00	.00	.28	.33
Paleontology	7.00	5.17	.00	.00	.58	.00	1.99	.00	.17	.17
Classics	14.34	8.06	.83	2.34	1.13	1.17	5.16	.21	.43	.86
German	13.17	13.18	.67	2.03	1.33	.00	19.01	.01	.44	.88
Music	20.00	18.08	.00	.80	3.63	1.66	6.33	.03	.53	.93
Near East Studies	14.66	12.95	2.00	2.34	6.36	5.58	1.50	1.25	.39	.61
Oriental Langs	13.33	12.97	.50	1.00	3.25	7.82	2.89	.19	.42	.54
Scandanavian	4.00	4.06	.33	.00	1.83	.00	2.00	.03	.08	.19
Slavic Lang & Lit	11.83	9.67	.67	.50	5.19	4.00	3.50	.04	.22	.37
S & SE Asian Studies	7.33	6.72	1.00	1.21	3.67	.00	.00	.00	.15	.18
Astronomy	11.25	10.56	.00	.00	1.00	.71	2.97	.13	.24	.53
Geol & Geophysics	15.50	15.06	.33	.00	2.00	.50	5.00	.00	.68	.46
SUBTOTAL: Elite 13[e]	161.25	135.99	6.33	10.22	30.64	25.11	59.53	1.90		
(% of campus total)[e]	(10.73)	→(10.98)←		(28.80)	(13.41)	(39.64)	(13.30)		(4.46)	(6.52)
8 Social Science Depts	243.42	194.59	14.98	5.93	17.21	14.34	89.06	13.69		
(% of campus total)[e]	(16.20)	→(16.16)←		(16.71)	(7.53)	(22.64)	(19.90)		(17.76)	(20.00)
CAMPUS TOTALS[e]	1502.81	1296.76		35.49	228.50	63.35	447.64			

[a]See text for discussion concerning the selection of units for inclusion in the table.

[b]Source: Budget and Planning, "1976-77 I&R Budgeted Academic Staff--All Funds; Summary by Organizational Grouping," compiled as of November 1, 1976.

[c]Compiled by the author from: Budget and Planning, "Academic Title Expenditures--All Funds 1976-77," September 22, 1977. "Regular Faculty" in the table above include security-of-employment lecturers, a few RTAD payroll codes, and 0.92 FTE in History with an undefined Professorial payroll code (1130).

[d]Calculated from previous table.

[e]Campus totals and calculations with reference to them (i.e., "% of campus total") are based on totals given in Table 27 of Office of Institutional Research, Campus Statistics, Fall Quarter 1976 and Year 1975-76 (pp. 74-82). As the source cited in footnote "c" provided no campus totals, OIR's data from the previous year (1975-76) were used. While the OIR data does not distinguish between regular and visiting professorial titles (hence the combined percentage figure in the table), excludes General Assistance-funded FTE of all kinds, provides no data on readers, and is a year behind source "c", it does enable a fair computation of the proportional allocation of resources in most of the relevant title codes. The use of 1976-77 actual instructional resources and (projected) student enrollments, however, brings the table fairly up-to-date with respect to the recent changes in student enrollments (see text).

the campus allocates the faculty FTE to the home department and some portion of the student workload to the Biology Department. Another of the low-workload departments included in the table is involved in the frontiers of DNA research ("gene-splicing") and all of its headcount majors are graduates. Critical mass considerations (the minimal size for effective functioning) may be a concern in one or two cases. Indeed, in most cases there are undoubtedly sound rationales for the allocation of permanent and temporary instructional resources to these low-workload departments.

In terms of student/faculty ratios, universities will continue to have some departments with higher carrying capacities than others. Moreover, some kinds of instruction simply cannot be effective without relatively low student/faculty ratios.[11] Given a fixed resource base, however, the real question may be one which asks how extensive an array of "elite" departments can an institution afford to maintain without substantially reducing its capacity to respond to shifts in undergraduate demand patterns, without reducing faculty attention to undergraduates to lower than acceptable levels, and without impairing the quality of graduate education in other departments.

It would appear that decisions to allocate temporary instructional resources have been based very heavily on programmatic as contrasted with workload considerations. We trace the causes of these results to the pressure to maintain and enhance Berkeley's reputation in research/publication, and in graduate education, in all fields of endeavor. Hence, except for the small minority of undergraduates who enroll in the more elite departments, the analysis again seems to suggest that undergraduates have a relatively low priority at Berkeley.

CONCLUSIONS AND RECOMMENDATIONS

Summary

This paper reviewed University of California Systemwide and Berkeley data from several different sources concerning allocation of faculty contact hours, and of faculty teaching energies generally, by level of student. By several different measures, faculty energy and effort devoted to undergraduate teaching appear to have declined substantially during the period 1960 and 1970. More recently, despite a declining proportion of graduate students over the last decade or so within the University as a whole (and at Berkeley), faculty contact hours at the undergraduate level have declined even further (in per-capita-undergraduate terms, if not also absolutely).

Further, Systemwide efforts beginning in academic year 1969-70 to redress a perceived imbalance in faculty attention to lower and upper division students apparently had little immediate impact and negligible long-term effects.[JJ]

A second type of analysis seemed to suggest that upward shifts in undergraduate interest/demand patterns at Berkeley, whether short-term or long, are accorded a fairly low priority in the allocation of temporary and permanent instructional resources, even where per-student costs are relatively low and the physical plant adaptable (as in the Social Sciences).

Policy Considerations

Returning to one of our starting points then, it should come as no surprise that a number of students, particularly undergraduates (who outnumber graduates 3½:1), have intermittently pressed at the Legislative level for a greater number of classroom contact hours by faculty. In this writer's view, there are only a few alternatives to a continuation

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JJ From the perspective of the Berkeley campus, there has been some progress in teaching evaluation over the eight years since the issuance of the revised promotional guidelines (in August 1969). Most of this progress has come only in the last few years, and it certainly has not come independently of student pressures urging Berkeley conformance with University policy.

Some progress in teaching evaluation has probably also been made across the U.C. System. Money allocated by the Legislature for "Undergraduate Teaching Excellence," from which student evaluation of teaching is funded (in large part), has also been a very important factor in generating pressure for change, both Systemwide and at U.C. Berkeley.

At Berkeley, one questionnaire item for student evaluation of teaching has also come to be recommended for cross-campus use (since Fall 1976). But its proper use in the promotion process, as well as the de facto weight given to it and to teaching (as contrasted to other criteria in the promotion process), remain a matter of second-hand assurances from the students' perspective.

of the intermittent pressure to mandate a rise in faculty classroom contact hours, with the perhaps unfortunate likelihood that it may one day succeed.

Why has the student pressure for change often taken the form of urging a greater number of faculty classroom contact hours rather than calling for a close review of intra- and interdepartmental allocation of faculty resources and, where reasonable and appropriate, some redistribution? Given students' extremely limited participation in the establishment of guidelines for the distribution of faculty workload, departmentally and at the campus level, there are few ways other than urging more faculty classroom contact hours by which undergraduates can hope to get more faculty time. A prime contributor to the student stance described above then, is University and faculty reluctance to review their own performance at the undergraduate level, admit the possibility of various problems, or effectively deal with such problems as are determined to exist.

RECOMMENDATION #1: At all levels of the current general review of faculty workload, a close examination should be undertaken of the proportion of faculty time allocated in each department to lower, upper, and graduate division instruction. The faculty workload survey, beginning in Winter Quarter 1978, should request data on all teaching-related activities by level of student, and in ways consistent with improvements in methodology, seek to maximize comparability with data obtained in 1968 (and 1960).

Because graduate students are now more effectively represented than previously on the Student Body Presidents' Council (which represents U.C. students at the Statewide level and directs the U.C. Student Lobby), even an official student stance calling for more faculty classroom contact hours is probably more readily acceptable (i.e., to both levels of representatives) than would be any formula for a substantial reallocation internally by level of student. However, in view of the evidence related above, graduates and undergraduates alike may accept the thorough examination recommended above as part of a solution to the problems faced by undergraduates.[kk] This element of a solution is only partial because a substantial reallocation of faculty time by level of student is not expected to result (see "Educational Considerations," below).

With the faculty workweek being long enough already — but short enough on its core time commitments to look "soft" or "padded" to the uninitiated — one would think that faculty would actively seek to find ways more effectively to teach all students and otherwise to elicit their support and confidence. However, due to weak past performances in attending to undergraduate needs by the University administration and faculty, it has become essential that students have faith in the fairness of faculty workload distributions by level of student and in campus teaching evaluation processes. In order for that faith to have any chance to develop, and for other reasons elaborated upon below, we offer Recommendation #2.

[kk] Although we have no more recent evidence, in their examination of resource allocation by level of student, the Select Committee (1966) wrote:
"When we examine the average staffing figures in the various areas of knowledge, we find that the groups of departments in humanities, social sciences, life sciences, and physical sciences are each very close to the campus-wide average. Thus the great differences in the teaching patterns of individual departments [as therein shown for 28 anonymous departments] seems to be due more to departmental preference than to the intrinsic nature of the discipline." [Op. cit., p. 53.]

RECOMMENDATION #2: At least one graduate and at least one undergraduate student, appointed by the appropriate student government authorities on each campus, must sit as full participants on the Senate's budget/promotion committee(s). Students at both levels must also be represented in the departmental decision-making in the current workload review process, and on departmental committees (to be) charged with the evaluation of the teaching components of promotional cases.

Experience to date at U.C. Irvine, which has student members on its faculty promotion committee, has shown that proper procedures can be developed even in this most sensitive area. Student representatives on the campuses' budget/promotion committee(s) can effectively convey to students at large that the process and decisions of the committee follow University policies on workload and the crediting of teaching (if they do) and that they are generally fair (if they are). And these representatives can provide such assurances to students without reference to individual cases.

Another factor also suggests the need for the effective involvement of students in the workload review and teaching evaluation processes, and the value to the University of having student pressures to maintain effective levels of concern for undergraduates and properly to credit better teaching (at all levels). Because of the peer-professional pressures on faculty to research and publish, and the consequent recognition of the University based in part on research/publication, the tendency is for the University to be driven more and more toward a disregard of the undergraduate workload and of teaching ability/performance. In addition, there is a more effective association of these faculty endeavors with graduate (and postdoctoral) education, and strong graduate programs further add to the University's reputation.[11]

Educational Considerations

High quality graduate education (let alone highest quality graduate education) requires a considerably greater investment of faculty resources per student than does effective undergraduate education (see below). The University's projections for 1977-78 indicate that each graduate-level unit of instruction will cost $708. Each upper division unit is projected to cost $170; and each lower division unit of instruction will cost $133. (These undergraduate cost figures are actually slightly lower than projected costs at the same two levels in the CSUC System.)[mm] However, by current graduate

[11]This general pressure on faculty is manifest not only in the promotion process. For example, the academic review process at Berkeley, which is dominated by the Graduate Council (a Senate committee charged with oversight of graduate affairs), tends very readily to evoke recommendations that will enhance graduate education, often without much regard for the impact on undergraduate education. Numerous examples can be cited.

[mm]California Legislature, Analysis of the Budget Bill, 1977 (FY 1977-78), op. cit., p. 784. Costs above exclude the health sciences.

As factors which can be used to estimate the need for FTE faculty positions, the relative costs cited in the text seem well above the budgetary ratios formerly used — which set level II (advanced) graduates equal to 3.50, level I graduates at 2.50, upper division students at 1.50, and lower division students at 1.00.

school standards, at least among the top (public) universities, there may be only a rather modest overcommitment[nn] of resources at U.C. that can be spared for redistribution from the graduate to the undergraduate level.

Within the current resource base, however, if low enrollment programs are duplicated from campus to campus, particularly within the Northern or Southern regions (but even Statewide in the cases of lowest demand), there may be a high cost to the rest of the University's programs, both graduate and undergraduate. In the case of low-demand departments, retrenchment or consolidation (between campuses) may at times be appropriate. Intercampus transfer of faculty may well need to be considered.

As noted above, it is possible for a single campus to over-extend itself by attempting to maintain too large an array of low-enrollment, primarily graduate programs.[oo] If consolidations between campuses are to occur, it may even be wise for Berkeley to spin off more low-demand departments than it receives. The whole U.C. system might benefit by greater concentrations of faculty and students in some low-demand fields, and Berkeley would free up some of its resources, enabling it to pursue other high priority needs, both graduate and undergraduate.

Hence more Systemwide emphasis on "selective excellence" or "selective development" and departmental, inter-campus planning efforts seem appropriate. "Complete" offerings in some fields may be limited to fewer campuses, or be provided through only the Bachelor's or Master's level of study on some campuses. Further, in view of the information explosion, it has become even more impossible to provide coverage of all subject matter, especially on any one campus. The exercise of selectivity in developing academic departments and specialties within them allows a campus to build on strengths and to cluster advanced graduate programs with an array of related, mutually supportive departments and/or specialties.

In the case of academic fields with high undergraduate enrollments across the U.C. System or regionally, cooperation/coordination between campuses

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[nn] Overcommitment may be defined as that portion of resources which, if withdrawn, would result in little or no decrease in the quality of a program. Evidence of overcommitment of resources to the graduate level might include unnecessary duplication of course offerings (including interdepartmentally), unnecessarily repeated or small classes, etc. The University has at times had policies with respect to minimum class sizes, but it is not known to the author how closely this matter is reviewed.

[oo] The 1969-1975 Revised Academic Plan [op. cit.] projected UCB's graduate population for 1975-76 at 12,500 and undergraduates at 15,000, and also envisioned a 15.7% increase over 1968 in FTE faculty as well. In view of the reality of what happened, such planning goals could have contributed to current predicaments, especially since 110 FTE faculty were actually withdrawn from UCB in 1971-72 and, as we have seen, the graduate population actually declined modestly between 1968 and the present. This removal of resources may have contributed to the decline, 1964-versus-1972, in attention given to undergraduates at Berkeley (p. 9), but the decline is not necessarily more justified for that reason.

should be required to make sure that openings are actually available in proportion to the underlying freshperson and transfer student demand patterns, especially when money for new facilities is not needed (or forthcoming). Regionally, for example, at least one campus would need to provide temporary (or permanent) resources to departments where rises in student demand have occurred.

RECOMMENDATION #3: Strong Systemwide, regional, campus, and departmental cooperation or coordination is needed in subject areas with either low or high undergraduate (or net) student demand. Selective development must be pursued more effectively, even at some cost to campus autonomy.

From a Systemwide perspective, it should be noted, meeting undergraduate demand and providing attractive and fulfilling opportunities for learning will become even more important in the future, when the number of potential U.C. students declines.

While it would benefit undergraduate education to have a massive infusion of faculty resources, we must recognize that the U.C. System is not an elite private college or university, and that attractive and fulfilling learning opportunities can be provided in numerous ways. It is also fair to recognize that undergraduates in many fields draw much of their educational sustenance from beyond the classroom setting, and will continue to do so regardless of faculty time commitments to them. Nevertheless, the withdrawal of faculty time from undergraduates does not appear to have been counteracted by a substantial strengthening of undergraduate education in other ways.

Although the decreased relative attention to undergraduates does not seem to have been a matter of University policy and in recent years may even have been contrary to it,[pp] at least one likely reason for these developments can be identified. Some of the changes may well have stemmed from heightened professional pressures on faculty, department by department across the University, to research and publish. This pressure would most likely lead faculty to involve themselves more fully at the highest (i.e., graduate and postdoctoral) levels of endeavor in their specialty.

As initial but not necessarily sufficient steps addressed directly to strengthening the undergraduate educational experience in the U.C. System, we offer the next two recommendations. In both cases, costs are modest and the effects potentially quite significant.

RECOMMENDATION #4: For purposes described in the text below, the University should convert approximately $1 million in ladder faculty FTE allocations to security-of-employment lecturers.

Persons given security-of-employment as lecturers with this money should have talents in interdisciplinary and applied teaching (including skills needed to teach field and community studies), and/or be broadly-focused, discipline-based generalists. In either case, their primary commitment

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[pp]For example, Appendix A presents President Hitch's "Statement on Improvement of Undergraduate Teaching" in the University Bulletin, Vol. 19, No. 11, University of California, November 9, 1970.

would be to teaching excellence at the undergraduate level.[qq] Student evaluations of teaching and a faculty review of the quality of the content taught (should) constitute the primary criteria for promotion of the proposed lecturers. Where serving as core teaching staff for a departmental or an FTE-augmented interdisciplinary major, the security-of-employment lecturers would also serve as faculty advisors (often the most easily approachable ones). Appropriate levels of service to the department (etc.), University and public would also be expected.

Systemwide, the implementation of this recommendation would take only a small bite out of the available ladder faculty. Since $1 million will procure about 50 FTE ladder faculty and there were 5924 FTE actual teaching faculty in April 1976,[rr] the conversion to security-of-employment lecturers consumes about .8% (eight-tenths of one percent) of the available faculty, and perhaps four-tenths of a percent of current graduate-level faculty contact hours. Please note, however, that the security-of-employment lecturers, in order to re-enrich faculty contact with undergraduates, cannot be used as an excuse to further decrease the (post-workload review) commitment of the professorial ranks to undergraduate classroom contact hours and teaching.

The suggestion to convert 50 ladder faculty FTE to lecturer positions to which security-of-employment could be awarded often brings immediate protest based on the assertion that the University's greatness is based on a tried and true emphasis on the professorial ranks (i.e., researcher-teachers). However, evidence presented in this paper seems clearly to indicate that changing conditions, including heightened professional pressures to conduct research, have deprived undergraduates in ways that simply will not be redressed by adhering to ways of the past. In our view, the situation dictates at least a minimal level of permanent staff who will remain dedicated and enthusiastic (undergraduate) teachers if they expect further promotions within the lecturer ranks (let alone an award of security-of-employment in the first place).

RECOMMENDATION #5: For purposes described in the text below, Systemwide Administration, and faculty and student representatives should seek $1 million for Associate positions from the Legislature and Governor.

Through its campus committees concerned with instructional improvement (e.g., the counterparts of the Council on Educational Development at Berkeley),

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[qq] UCB's actions with regard to the case of Lecturer Paul Von Blum are directly in opposition to this recommendation (and may serve to illustrate one aspect of the problem being addressed here). Despite long-standing student demand for the (interdisciplinary) Social Science field major (for which Von Blum has provided much of the core teaching and advising), and despite official Senate recognition of Von Blum's outstanding teaching ability, he is not being retained. Although enrollments have exceeded 100 majors in all of the last five years, the College of Letters and Science has refused to allocate permanent faculty FTE to the program.

[rr] University of California, Statistical Summary of Students and Staff, op. cit., p. 107. FTE data are drawn from payroll tapes and exclude faculty FTE in administrative posts.

the University should make a commitment to use the proposed Associate positions as follows: To fund proposals, developed under faculty sponsorship, by advanced graduate students with at least one previous year of teaching experience, for small lower (and upper) division seminars (up to 25 students) which are innovative in content or teaching method. Advanced graduates would not be paid to develop the proposals, but would be hired at 1/6 FTE per quarter to teach the class for up to two quarters, contingent on adequate teaching evaluation ratings by the students enrolled.

The recommendation concerning Associates is targeted to meet many goals, including: 1) Provision of more small seminars for lower (and upper) division students. 2) Development of innovative courses at the undergraduate level. 3) Further infusion of undergraduate education with enthusiasm — because of the (exciting) opportunity for advanced graduates to gain more experience in teaching and course development in an area of their choosing. 4) Provision of more opportunities for work for graduate students (in a period of declining financial aid for graduates), and a strengthening of graduate students' credentials for subsequent employment. 5) Identification of graduate students with exceptional teaching abilities, with an eye toward their subsequent employment in more advanced faculty classifications. 6) Enhancement of faculty interest in innovation through the involvement of their graduate students in the program and, on some campuses, establishment of a program to counter excessive Senate rigidity as to what constitutes acceptable subject matter and staffing. 7) Reopening of the possibilities for a Doctor of Arts in Teaching Degree (e.g., as either a terminal or intermediate degree).

At minimum, courses developed under this program should be duly accredited by the campus as fulfilling the relevant breadth requirements and, as befits the lower or upper division level of the course, as electives in the discipline or major.

Considering both recommendations #4 and #5: If $1 million represents 50 faculty, each of whom teaches 5 courses per year, one-third of which are at the graduate level, graduates would lose about 80 courses per year, Systemwide, in the implementation of recommendation #4. Courses generated by 50 lecturers, at 6 courses each per year, would number 300; if all of these courses are undergraduate courses, undergraduates would gain 130 offerings. In addition, most of the 300 courses would be larger, well-taught, mainline departmental or interdisciplinary, lecture-style classes; some would also be field studies and the like. The $1 million in Associate positions (about 88 FTE), again at 6 courses per FTE, would result in 528 innovative, small seminars — a meaningful type and number of classes for a very modest additional investment.

Overview of the Recommendations

In the author's view, the foregoing five recommendations represent a minimally acceptable set necessary to redress the apparent decline in faculty attention given to undergraduates at the University of California. Indeed,

the recommendations have been chosen carefully to represent a "package" that minimizes potential adverse affects on graduate education, faculty workload, and the research-based components of the University's mission and reputation. But there is a chance that these limited recommendations, as a group, will bring about an effective new resolution, synthesis, or peace — at least in the broad constellation involving the reward for teaching, attention to undergraduate education, and faculty workload.

Nevertheless, students' access to data is quite limited — many relevant facts may lie buried. Attenuating factors not herein identified may well exist. However, unless very substantial problems with the data and analysis presented here, or other mitigating factors are found, the five recommendations above currently seem to be no more than barely sufficient as compensation for the magnitude of the shift of faculty energy and effort away from undergraduates.

LIMINARY
FIDENTIAL

TABLE A

THE UNIVERSITY OF CALIFORNIA
OFFICE OF THE VICE PRESIDENT--PLANNING AND ANALYSIS

Distribution of Faculty Effort by Level of Student in 1960 and 1968, and Enrollment
All Faculty Appointments

Level of Student	Percent of Total Enrollment		Weekly Hours Spent in Course and Tutorial Activities		Percentage of Weekly Hours in Course and Tutorial Activities		Faculty Hours per Student per Week		Pct Change (8)→(9)
	1960	1968	1960	1968	1960	1968	1960	1968	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
Lower Division	34%	33%	6.95	4.14	22.1%	15.1%	1.17	.69	−41%
Upper Division	40%	40%	12.82	9.30	40.8%	33.9%	2.12	1.26	−41%
All Graduate	26%	27%	11.65	14.00	37.1%	51.0%	2.23	2.88	+29%
Masters	(17%)	(14%)	n.a.	(5.22)	n.a.	(19.0%)	n.a.	(2.06)	
Doctors	(9%)	(13%)	n.a.	(8.78)	n.a.	(32.0%)	n.a.	(3.75)	
Total	100%	100%	31.42	27.44	100%	100%			

n.a. = not available

Source: 1968 Faculty Effort and Output Study
1960 Faculty Time Study

OAS
1/12/69

University Bulletin

BERKELEY DAVIS IRVINE LOS ANGELES RIVERSIDE SAN DIEGO SAN FRANCISCO SANTA BARBARA SANTA CRUZ

A Weekly Bulletin for the Staff of the University of California ■ Volume 19, Number 11 November 9, 1970

From President Hitch:
Statement on Improvement of Undergraduate Teaching

President Charles J. Hitch has issued this statement on the improvement of undergraduate teaching and the use of instructional resources:

The University of California has faculties which include scholars among the most eminent in the world. It provides graduate and professional education of high quality. It renders great service to this State and to the Nation. During the past two decades, in response to national needs for greatly increased numbers of college and university teachers and professional school graduates, and for greatly expanded training and research in science and allied fields, the University accelerated the development of its capabilities in graduate and professional education and in research, so that in these areas it has well justified the trust placed in it by the people of California. It must and will continue to justify that trust.

But the University of California has another great responsibility: it must meet the educational needs of able undergraduate students. Here the University as a whole is not doing as well as it could and should be doing, although there are some notable examples of interest in and devotion to undergraduate teaching within the University. Like most large institutions which offer strong programs of graduate instruction, however, the University now needs to give renewed attention to the quality of its programs for undergraduates. There must be greater commitment of faculty of all ranks to the instruction of undergraduate students. There must be determined efforts throughout the University to live up to this commitment through a variety of positive actions.

I am asking each Chancellor to develop a plan of action appropriate to his campus for strengthening or reaffirming the commitment to undergraduate education, including the steps to be taken to carry out the plan. The precise nature of the plans may be expected to vary from campus to campus and even from department to department within the same campus, but each campus must act to ensure that undergraduate students receive education of the highest possible quality. The teaching program must significantly involve faculty of all ranks in instruction at all levels, including the lower division (I recognize that in some parts of the University this is already accepted practice).

I am asking the Chancellors to submit their preliminary plans for review by January 22, 1971. Completed plans must be approved and put into effect by the opening of the Fall Quarter, 1971.

Strengthening our commitment to undergraduate instruction cannot be accomplished by University-wide formulas or by mere quantitative standards. There are certain guidelines, however, which I expect to be followed.

1. Efforts must be directed toward curricular reforms intended to assure that course offerings and schedules are optimally designed to meet the educational needs of students. It is the responsibility of each department chairman or equivalent officer, with the participation of his faculty and review by the dean and the appropriate Senate committees, to assure that the curriculum under his jurisdiction meets this standard and that it is subject to constant review and evaluation. (This responsibility is set forth in the University's policy statement on "Duties of Department Chairmen" and in the guidelines for the administrative supervision of academic programs which were issued by my office in September, 1970.)

2. Chairmen are to assign teaching responsibilities in such a manner as to ensure substantial involvement of faculty of all ranks in instruction at all levels, including the lower division. Responsibilities of faculty members which are related to the instructional program, such as scheduled instructional sessions with students and the holding of office hours, must of course be carried out as announced.

3. There must be the opportunity for every freshman to participate, during at least one quarter of the academic year, in a small-group class directly taught by a faculty member in one of the professorial ranks.

4. Evaluation and documentation of teaching performance must be substantially improved, in accordance with the revised "Instructions to Appointment and Promotion Committees" issued in August, 1969. I strongly recommend that the following suggestions be considered, and I would welcome additional suggestions from the campuses:

a. Departmental or college teams, reporting to the dean through department chairmen, should be established to evaluate the quality of teaching of faculty members at all levels, giving particular attention to faculty being considered for promotion to tenure rank. Methods of evaluation might include such practices as class visitation, study of teaching materials such as reading lists, term paper and problem assignments, lecture notes, and examinations, and interviews with current and former students; the methods judged appropriate will vary from department to department.

b. Organized efforts for the evaluation of teachers by students should be encouraged. The "Instructions to Appointment and Promotion Committees" require that student evaluations be included in recommendations for promotions; organized efforts to secure such evaluations would facilitate compliance with this requirement.

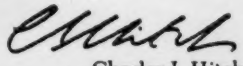
In this connection, I am instructing that the annual bio-bibliographical statement form which is distributed by my office be amended to provide opportunity for faculty members to include brief descriptions of any systematic ef-

forts to improve instruction in which they have been engaged during the year.

5. Chancellors should institute detailed studies of how their campus teaching resources are being used—by department, by level of instruction, and by faculty rank—as a basis for effective action to improve the quality of undergraduate education.

6. Chancellors should allocate their limited resources in ways that will make a substantial permanent commitment to improving the quality of education. They should encourage continuing instructional experimentation along every promising line, even though not all experiments can be expected to succeed. One way of offering such encouragement will be to provide matching funds from campus resources for the special Regents' Undergraduate Instructional Improvement Grants, to be available in 1971–72.

The task here set for the University is worthy of our best talents and collective efforts. I am confident that this endeavor will have the support of all sectors of the University community.



—Charles J. Hitch

Summer Faculty Fellowships Announced for 1971–72

The Regents have approved allocations for the Summer Faculty Fellowship program during 1971–72. Instructors or Assistant Professors on nine-month appointments who have not previously received a Fellowship may apply for these grants which provide support for research and independent study during the summer. Applicants must continue in University service following and may not accept other employment or support during the fellowship period.

Chancellors will announce application procedures and final awards for this program.

Appointments to Creative Arts Institute Available in 1971–72

Faculty members who are painters, sculptors, composers, writers, or artists in other creative fields are invited to apply for appointment to the Creative Arts Institute for 1971–72. Appointments are designed to provide opportunities for sustained creative efforts during periods free from other duties. Supplemental summer salary, supplemental sabbatical salary, and/or grants for supplies and expense may be requested.

Chancellors will soon announce eligibility rules, application procedures, and deadlines for their campuses. Appointments will be announced by President Hitch on or about February 26, 1971. Funds for the support of this Institute have been approved by The Regents on the President's recommendation. Institute appointments may not duplicate other major fellowship or grant support for the same period.

Press Publications

Series

Entomology: Vol. 61, 153 pp., including figures. Summers, Francis M. and Douglas W. Price: "Review of the Mite Family Cheyletidae" Price, $5.50.

Geological Sciences: Vol. 86, 61 pp. including plates. Berman, David S.: "Vertebrate Fossils from the Lueders Formation, Lower Permian of North-Central Texas." Price, $2.50.

Librarianship: Vol. 8, 200 pp. Peterson, Kenneth G.: "The University of California Library at Berkeley 1900–1945." Price, $6.

Linguistics: Vol. 66, 200 pp. Langdon, Margaret: "A Grammar of Diegueño: The Mesa Grande Dialect." Price, $4.

Modern Philology: Vol. 99, 151 pp. Perella, Nicholas James: "Night and the Sublime in Giacomo Leopardi." Price, $5.

Zoology: Vol. 93, 115 pp. including figures and plates. Timm, R. W.: "A Revision of the Nematode Order Desmoscolecida Filipjev, 1929." Price, $4.

Zoology: Vol. 94, 52 pp. Raikow, Robert J.: "Evolution of Diving Adaptations in the Stiftail Ducks." Price, $2.50.

Appointment of New Members To UC Water Resources Center

Three new appointments to the Advisory Council of the University's Water Resources Center have been made by President Charles J. Hitch. Appointed to three-year terms each are The Honorable James A. Cobey, Associate Justice, Second Appellate District, Los Angeles; William C. Farquhar, President of the West Basin Municipal Water District, Redondo Beach; and Harold Gilliam, author and columnist for the *San Francisco Chronicle*.

Recent appointments have also been made to the Coordinating Board of the Water Resources Center. The six faculty members, appointed to terms of two and three years, are: Dr. Grant McConnell, Executive Vice Chancellor, UC Santa Cruz; Professor Fred E. Case, Graduate School of Business Administration, UCLA Los Angeles; Professor Henry J. Vaux, School of Forestry and Conservation, UC Berkeley; Professor Henry Fagin, Graduate School of Administration, UC Irvine; Professor Garrett J. Hardin, Department of Biological Sciences, UC Santa Barbara; and Professor Parker F. Pratt, Department of Soil Science and Agricultural Engineering, UC Riverside.

The Coordinating Board establishes policy for governing the Water Resources Center, and approves proposed research projects and the allocation of funds for such projects.

Department Chairmen

DAVIS

College of Agricultural & Environmental Sciences	
Agricultural Practices Division	H. O. Walker
Agricultural Zoology	K. T. Spieth; E. W. Jameson (Vice Chairmen)
Agronomy and Range Science	P. F. Knowles
Animal Sciences	M. Ronning
Animal Physiology	J. M. Bodo
Applied Behavioral Science	O. E. Thompson
Avian Sciences	C. R. Grau
Biochemistry & Biophysics	P. K. Stumpf
Consumer Sciences	M. A. Morris
Entomology	O. G. Bacon
Environmental Horticulture	H. C. Kohl, Jr.
Environmental Toxicology	W. W. Kilgore
Food Science & Technology	B. S. Schweigert
Genetics	R. W. Allard
Nematology	D. J. Raski
Nutrition	F. W. Hill
Plant Pathology	R. G. Grogan
Pomology	R. S. Bringhurst

David H. Blackwell Receives Berkeley Honor

Professor David H. Blackwell, a statistician whose ability to combine pure and applied mathematics is described as unusual in this century, has been named Faculty Research Lecturer for the 1970–71 academic year at UC Berkeley.

Professor Blackwell's more than 60 publications, the selection committee observed, cover a remarkably wide range of fields, including many original contributions to mathematical probability and discovery of improvements in the use and teaching of statistics.

The committee noted that his scholarly style "reveals a particular quality of mind . . . He has a knack for finding the right formulation, after which a previously intractable problem seems almost easy . . . The same lucidity of mind has helped to make Blackwell famous as a public lecturer and much sought after as a counsellor both inside and outside the University."

This annual appointment by the Academic Senate at Berkeley is the highest honor the University faculty can confer on one of its members. Selection is by a faculty committee composed of those previously honored.

The Faculty Research Lecture is given every spring as part of the UC Charter Week observances.